AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, listings, of claims in the application:

Claims 1-10 (canceled)

Claim 11. (original)   A non-linear inductor comprising:

a first stack of laminations each having the same predetermined shape and at least one leg and at least one step at the end of said at least one leg; and

a second stack of laminations each having the same predetermined shape adjacent said first stack of laminations to form a flow path for magnetic flux, said at least one step at said at least one leg end and said second stack of laminations creating an air gap that has two widths between said at least one leg and said second stack of laminations to produce a desired non-linear inductance characteristic for said non-linear inductor.

Claim 12. (original)   The non-linear inductor of claim 11 wherein said first stack of laminations each have an E shape each having a center leg and end legs and said at least one leg having a step is selected from said center leg or at least one of said end legs.

Claim 13. (original)   A non-linear inductor comprising:

a first stack of laminations each having the same predetermined shape and at least one leg, a first predetermined number of said laminations in said first stack having a first predetermined length for said one leg and a second predetermined number of said laminations in said first stack having a second predetermined length for said one leg; and

a second stack of laminations each having the same predetermined shape adjacent said first stack of laminations to form a flow path for magnetic flux, said one leg and second stack of laminations creating an air gap that has at least two widths between said at least one leg and said second stack of laminations to produce a desired non-linear inductance

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characteristic for said non-linear inductor.

Claim 14. (original)   The non-linear inductor of claim 13 wherein said first predetermined number and said second predetermined number of said laminations in said first stack are selected in a ratio to each other to produce a desired inductance characteristic for said non-linear inductor.

Claim 15. (original)   The non-linear inductor of claim 13 wherein said first predetermined number and said second predetermined number of said laminations in said first are arranged in an order with respect to each other to produce a desired inductance characteristic for said non-linear inductor.

Claim 16. (original)   The non-linear inductor of claim 13 wherein said first stack of laminations each have an E shape each having a center leg and end legs and said at least one leg in said first predetermined number of said laminations having a first predetermined length is selected from said center leg or at least one of said end legs and said at least one leg in said second predetermined number of said laminations having a second predetermined length is selected from said center leg or at least one of said end legs.

Claim 17. (original)   A non-linear inductor comprising:
a magnetic material tape wound toroidal core; and
an air gap in said core having at least two widths.

Claim 18. (original)   The non-linear inductor of claim 17 wherein said core is cut in an axial direction to produce said air gap, said air gap having a first width adjacent the edges of said toroidal core and a second width between said first widths.

Claim 19. (original)   The non-linear inductor of claim 18 wherein said first width is greater than said second width.

Claim 20. (original)   The non-linear inductor of claim 17 wherein said core is cut in a radial direction to produce said air gap, said air gap having a first width adjacent the outer edge of said toroidal core and a second width adjacent the inner edge of said toroidal core.

Claim 21. (original)   The non-linear inductor of claim 17 wherein said first width is greater than said second width.